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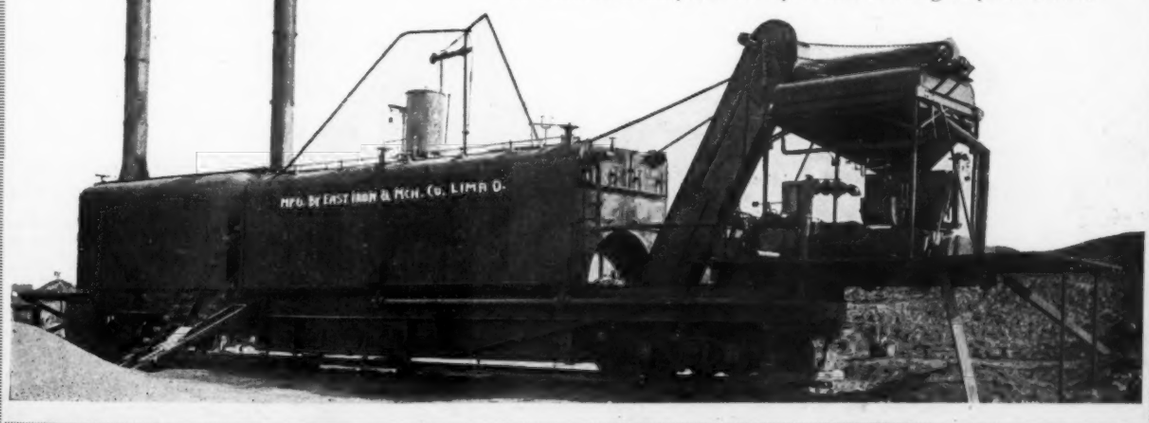

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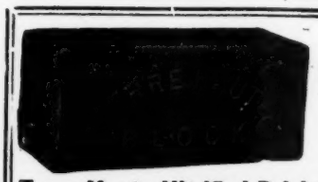

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Municipal Journal & Public Works.

City County State

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Contributed Articles and Reports.

Contributions suitable for this paper, either in the form of special articles or as letters discussing municipal matters, are invited and paid for.

City officials and civic organizations are particularly requested to send to Municipal Journal and Public Works regularly their annual and special reports.

Information Bureau.

The Information Bureau, developed by twenty-one years' research and practical experience in its special field, is at the command of our subscribers at all times and without charge.

Contents of This Issue.

AIR PATROLMEN.

Possibly few cities will at once follow New York's example and organize aviation branches of their police departments, and yet it is apparent that air patrolmen may soon become necessary, and rules of the air which they will enforce for the safety of aviators and of those on the ground below. Aviation robberies may take the place of automobile robberies, and could even more easily elude pursuit unless they could be followed. As aids to the fire department, aeroplanes have already proved their value, and their practical use in many fields may develop before we realize it.

GARBAGE UTILIZATION BY THE ARMY.

Burning garbage and other refuse is undoubtedly the most sanitary method of disposing of it. It is also perhaps the most expensive of those in common use, and destroys many matters that could be recovered and utilized. The army has in the past used incineration almost if not quite exclusively for disposing of garbage at its barracks, forts, hospitals and other points of occupancy, probably because this matter has been in the charge of physicians, and they are, as a class, temperamentally inclined to consider sanitation as the sole consideration. From 1900 to 1907 there were, our records show, 97 incinerators built in the United States, and 30 of these were built by the army and navy. Altogether they have installed more than fifty plants.

But with the infusion of civilian blood into the management of army matters in 1917, and the asking of advice from experts and business men, incineration was entirely abandoned for utilization; with the result that, directly and indirectly, millions of dollars were saved, and pork and glycerine produced to meet an urgent need. And Mr. Bamman says, in his article last week and this that there is nothing to indicate that this gain has been offset by any injurious effect upon the health of any one, in camp or out.

Conditions in camps are vastly different from those in cities, and because utilization succeeded from apparently every point of view in the one is no certain indication that it should be adopted by all municipalities. But it has at least been demonstrated that the system is feasible and not detrimental to public health, and that it should be considered in every study of the problem of waste disposal by our cities.

STATE ROADS WITHOUT BONDS.

The state of Vermont has introduced one unusual feature in its road work, in that it has issued no bonds for this purpose and contemplates issuing none. M. E.

Shedd, chief clerk of the highway department, writes us: "Vermont has always paid for road work as it was finished, and for a number of years has paid special attention to maintenance. This policy will be continued."

Although no bonds are to be issued, the state will have available this year nearly a million and a quarter dollars for road construction, of which $622,650 is state appropriation, $125,000 is raised by a state highway tax, $100,000 has been voted by towns, and $362,650 is the federal aid apportionment. In addition, there will be $645,000 obtained from automobile registrations, etc., and from towns.

There are 15,000 miles of road in the state, and 4,300 miles of this are included in a state highway system; and about 2,000 miles of this system has already been improved with gravel.

SOUTH NORWALK'S NEW STREET LIGHTING

Lights and Fixtures Designed Especially for This Installation, Supported on Ornamental Poles That Also Carry Wires of Private Companies and of the Municipal Fire and Police Telegraph.

Just before the United States entered the war, South Norwalk, Conn., had started work on an extensive system for combining an ornamental street lighting system with wire-supporting poles to occupy about two miles of its principal streets. The installation had reached such a stage that work upon it had to be continued regardless of the great difficulties brought on by the war, and the construction was finished last fall. The lighting service actually became operative last summer, but the installation was not entirely completed until early in October.

The system consists of 143 poles, each pole supporting two ornamental lighting brackets and also carrying the wires of the Connecticut company, the Connecticut Lighting and Power Company, and the Postal Telegraph and Cable Company; also 53 poles carrying wires only. A part of the cost was paid by these companies, but the total cost, which is expected to reach about $40,000, has been wholly financed by the profits of the electrical works without a cent from taxation, the public treasury or other source.

Preliminary to preparing the final plans and while getting the complicated official machinery of the city and state in operation and favorable adjustment, much time was devoted to studying various types of ornamental street lighting, visits being paid to cities in the states of New York, New Jersey, Pennsylvania and the Central West as far as Detroit, Gary, Ind., and Chicago, and to a number of places in Canada by one or all of the electrical commissioners or by Albert E. Winchester, the general superintendent of the electrical works. Descriptions from more remote places were studied, but no type of ornamental lighting was found that would properly solve all the problems and conditions peculiar to South Norwalk ,in view of the necessity for extreme economic operation, extensiveness of the system, and the complex aggregation of overhead wires which had to be provided for. Ideas so obtained were utilized, but a complete new system was evolved by the collaboration of the General Electric Company's illuminating engineers and experts, D. M. Diggs, C. A. B. Halvorsen, Jr., and W. D. Jennings, with superintendent Winchester.

The installation, considered by experts to be one of the finest specimens of modern standard steel pole line construction in existence, carries the wires of two electric light and power systems, one electric street railway, one telegraph company, and the municipal fire and police telegraph systems. It was installed under the provisions and requirements of the Connecticut Public Utilities Commission. Of the 196 steel poles, 143 serve the double purpose of carrying wires and also twin lamps suspended from curved brackets, making a total of 286 lighting units on the nearly two miles of streets.

THE POLES.

The tubular poles consist of three extra heavy pipe sections decreasing in size and swaged into each other, with a base of cast iron and bracket castings of the same material, while the cross-arms carrying the wires are of wood brought from the Pacific Coast. The setting of the poles was one of the most important and exacting as well as difficult details of the work; this being due not only to their length, which was 35 feet, and their great weight, but also to the continuous danger involved in having to erect them among the existing wooden poles and wires, which had to remain intact so as to keep the several electrical systems in continuous operation. Each pole was set with a surveyor's transit, due allowance being made for strains of the trolley span wire. The poles were set in solid concrete foundations with their bottoms six feet below the surface and resting on metal plates imbedded in the earth and surrounded by charcoal, for the double purpose of securing positive footing and ample electrical grounding for both rigidity and public safety from stray currents.

After the new poles had been set, all wires transferred most carefully to them from the old wooden poles, and finally these latter, more than two hundred in number, were removed. All this was done without any accident of consequence, although the wires contained electrical currents ranging from 220 to 2300 volts. The poles were painted a dark bronze green, with a broad band of white which catches the light rays at a plane close to the lamps and adds to the illuminating effect. The wires are carried a considerable distance above the lamps on cross-arms and were carefully lined up. At night they cannot be seen at all, and in the daytime the appearance offers as little objection as is possible with overhead wires. The appearance of the graceful but strong steel poles carrying symmetrically strung lines is very favorable as compared to the former cumbersome and unsightly wooden poles bearing irregular festoons of wires.

THE LIGHTING FIXTURES.

The city was laid out in four separate circuits and the lamps so arranged in the business district that in case one circuit became disabled the street would not be in darkness, this being effected by using a separate circuit for the lamps on each side of the street. The brackets were made especially of 1½-inch wrought-iron pipe with a cast-iron scroll, attached to two pole bands, which were made hollow. The wires from the lamps leave the pipe brackets for the pole at a point opposite the lower pole band and thence are carried upward inside the pole into a cap, where they emerge from two outlets and are brought down outside to tap the proper service wires. Bringing the lamp leads through the upper pole band would have saved a little wire but would have weakened this band, which has to carry most of the weight of the lamp.

In developing the lamp fixture, the experts named above decided that, while a standard prismatic band-refractor gave good distribution, it would be possible to

improve its appearance and reduce the glare when viewed from a point near the pole. This result was obtained by combining a frosted bowl with an eight-inch band refractor. A two-inch hole in the bottom of the bowl gives ventilation and permits dust and insects to fall out, while collection of dust on the inside is avoided by the smooth and steep interior surface. The smooth and steep exterior also prevents the collection of dust and rain-water and the alighting of birds upon the lamp. A standard series socket with film cut-out is used for the lamps, the greater number of which are 80 c.p. The lamps have an elongated latch and removable globe holder, and by means of a pole with a lamp remover at one end, the lamps can be changed easily and the glassware cleaned by an operator standing in the street.

A special casting also was designed with the object of giving a good balanced appearance in connection with the glassware and brackets used and a shape so that birds could not alight upon it, of providing a body large enough to accommodate a compensator for use with larger lamps, and of facilitating access to the lamp and globe for replacement and cleaning.

While the lamp fixture was designed especiall yfor South Norwalk, the equipment has now been standardized and can be purchased of the manufacturers. Since the glassware described above was designed, an improvement has been made which adds to the appearance of the globe both day and night and betters the distribution of the light. The inner prismatic band and the frosted bowl are now made in one piece, outside of which is a prismatic bowl which is continuous the full length of the glassware instead of stopping at the lower edge of the band.

Eighty c.p. lamps were found satisfactory for most of the fixtures, but in some cases 100 c.p. lamps were used to give additional light. The power required is about 120 watts per pole, and the poles average 100 feet apart. This makes only 240 watts in the residence section, where the lamps are staggered. The lamps are placed 15 feet above the road surface.

Mr. Winchester and the electrical commissioners of South Norwalk believe that by this system they obtain the best illumination possible with available design of fixtures at an initial and operating cost much less than is usual with ornamental systems. The system is ornamental by both day and night, the intensity of illumination is high enough for cities of average size and yet does not require the large amount of power needed for so-called "white way" lighting, and it is safe from the

DAYLIGHT VIEW OF SOUTH NORWALK STANDARDS AND LAMPS.

WEST AVENUE, SOUTH NORWALK, CONNECTICUT. 80 C. P. LAMPS IN NEW FIXTURES.
The halos do not exist in reality, but are an effect of the camera, as photographers will understand.

standpoint of both the passerby and the wire man. It is found that the operating maintenance cost of the double lamp unit of each standard is between $20 and $25 a year.

The engineering work of installing the system was done by the J. G. White Engineering Corporation. The lamp fixtures and apparatus were furnished by the General Electric Company and the special globes by the Holoplane Glass Company.

THE ARMY'S UTILIZATION OF CAMP WASTES*

New Form of Contract Secures Greater Economy in the Use of Food, More Material from Which Glycerine Can Be Derived, and Larger Revenue—Tabulated Data from the Various Camps.

By F. C. BAMMAN.

If, in endeavoring to compare the former contracts with those now in force, we assume that the true composition of the garbage produced at the various camps conforms to the ideal condition assumed in making up the contracts, the present value of the waste can be approximately compared with that previous to last July. Table No. 3 gives this comparison for each of the National Cantonments and it will be noted that in each instance the present value far exceeds that of the previous contracts; even the assumption that the present per capita wastage prevailed during the older contracts would not give values equal to those now being obtained.

Possibly the most surprising feature indicated by Table No. 3 is the wide range in the prices for each set of figures. This indicates a considerable field for improvement on the part of the army officials, it hardly seeming possible that local conditions can entirely account for the variances shown.

Tables No. 4 and No. 5 give in considerable detail the prices paid under existing contracts at the various camps. Some very interesting comparisons with Table No. 1 are possible.

Table No. 4 brings out an objection to the values shown in the preceding table. In every instance the contract price for "other garbage" is less than that for the separated materials. Thus, if any of the material which should be segregated finds its way into "other garbage" the value given in Table No. 3 immediately falls. It is accordingly important to the government that segregation as contemplated is actually carried out. The percentage figures of Table No. 2 show that a large amount of the higher grade material has been sold with the mixed garbage and that the values given in Table No. 3 are higher than those being received. Separation in the army is not yet perfect.

Actual returns show that for the six months ending January 1st the new contracts yielded over $500,000 more than would have been returned to the government had the 1918 contracts still been in force. This in spite of the fact that with the signing of the armistice the number of men in camp decreased rapidly and that May and June of last year found about 150,000 more men in camp than during any subsequent month.

It will be noted from Table No. 5 that not all of the present contracts are on a separation basis. The camps given in this table, however, are mostly so small that segregation would result in too small quantities to warrant handling. In the kitchens of these camps, however, segregation is practiced and reports are made on a separation basis.

The reason for particularly specifying the third object of the new contracts, making available to the government any glycerine-containing material, has already been mentioned. As a matter of fact, the necessity for this action did not arise and although the greater part of the segregated meats and fats were treated to recover glycerine, recovery in all but one instance was in private plants.

The original army plan regarding glycerine recovery proposed the establishment of 16 rendering plants. Of this number only one has thus far been built. The main difficulty lay in obtaining the necessary equipment and the time required, first, to build the proposed rendering plants, and, second, to secure the forces necessary to efficiently operate such plants. The reduction in amount of meats and fats actually segregated over that assumed when the contract was made up, a reduction of around 7 per cent, seemingly indicates the wisdom of permitting the segregated material to be handled in private plants.

The amount of pork and other valuable materials available through the utilization of army garbage cannot be definitely determined. Experiments have shown that an average daily ration of twenty pounds of camp garbage will produce a gain of one pound per day in the hog. The average wastage for 1918 can certainly be assumed as one pound per man per day. For the year, this assumption would give 18 pounds of pork as the production from the garbage of one man.

The daily average number of men in camp during

*Concluded from page 308.)

Table No. 3. Comparison of Returns, Contracts Expiring July, 1918, With Present Contracts.

Cantonment.	Approximate Contract Price Per Ton for Kitchen Waste. Previous to July, 1918.	Since July, 1918.	Remarks.
Devons; Ayer, Mass	$1.87	$15.07	First price includes receipts for manure
Upton; Yaphank, N. Y	1.58	11.05	
Dix; Wrightstown, N. J	1.65	11.98	
Meade; Admiral, Md	1.64	12.04	
Lee; Petersburg, Va	1.31	6.05	
Jackson; Columbia, S. C	.99	8.97	
Gordon; Atlanta, Ga	1.35	9.40	
Sherman; Chillicothe, Ohio	1.84	9.86	
Taylor; Louisville, Ky	2.96	10.76	First price includes receipts for manure
Custer; Battle Creek, Mich	1.56	6.65	
Grant; Rockford, Ill	1.65	10.15	
Dodge; Des Moines, Iowa	1.64	7.41	
Funston; Ft. Riley, Kansas	1.97	9.11	
Pike; Little Rock, Ark	1.91	10.40	
Travis; San Antonio, Texas	1.65	12.13	
Lewis; American Lake, Wash	2.80	5.69	First price includes receipts for manure

NOTES: Figures for price prior to July, 1918, are based on the estimated camp strength and a per capita waste of two pounds per day.

Figures for price after July, 1918, are based on the estimated camp strength and the percentages of wastes given in the text. They represent the return with perfect separation; actual returns are somewhat lower.

Table No. 4. Contract Prices for Various Classes of Kitchen Wastes, U. S. Army, Effective July 1, 1918.

Camp or Station.	Contract Price per 100 Pounds — Bread. (a)	Meats & Fats. (b)	Bones. (c)	Other Garbage. (d)	Expiration of Contract.
Artillery Training Center, Fort Sill	$2.05	$4.02	$0.52	$0.08	June 30, 1919
Beauregard	.60	3.00	.50	.40	June 30, 1919
Cody	2.00	2.00	.50	.25	June 30, 1919
Colt (1)	.25	2.00	.50	....	June 30, 1919
Crane (1)	1.35	1.00	1.00	.18	Dec. 31, 1918
Custer	1.00	2.75	.60	.04	June 30, 1920
Devens	.20	8.00	1.00	.05	June 30, 1919
Dix	4.33	4.96	.95	.04¼	June 30, 1920
Dodge	1.00	3.00	.70	.05	June 30, 1919
Funston	1.50	2.50	.50	.18¾	June 30, 1919
Gordon	1.50	3.25	.90	.12	June 30, 1919
Grant	1.00	4.50	.80	.05	June 30, 1920
Greene (1)	.25	.20	.22	.10¼	June 30, 1919
Hancock	1.00	3.25	1.00	.12	June 30, 1919
Humphreys, A. A. (2)	....	....	....	.04 1/6	June 30, 1920
Jackson	1.50	3.25	.90	.10	June 30, 1919
Johnston	1.50	3.25	.90	.11	June 30, 1919
Lewis (2 contracts)	.50	.50	.60	.15	June 30, 1919
	.65	.65	.78	.30	June 30, 1919
Logan (2 contracts)	.40	.40	....	.30	June 30, 1919
	...	....	1.25	....	June 30, 1919
McClellan	.17½	.17½	.17½	.17½	June 30, 1920
Meade	4.33	5.01	.95	.05½	June 30, 1919
Merritt	....	4.00	.90	.05½	June 30, 1919
Newport News	3.00	2.00	.75	.02½	June 30, 1919
Pike	2.00	4.50	.75	.06	June 30, 1920
Sevier	.50	.50	.50	.20	June 30, 1919
Sherman	1.50	3.25	1.10	.13	June 30, 1919
Sheridan	1.00	4.50	1.50	.06	June 30, 1919
Taylor	1.75	3.50	1.05	.16	June 30, 1919
Travis	1.20	2.25	.75	.41	June 30, 1920
Upton	.25	4.00	.90	.05¼	June 30, 1920
Wheeler	1.00	4.50	1.50	.06	June 30, 1920
Fort Crook (1)	....	....	....	1.55	June 30, 1919
Fort McPherson (1)	.37½	.37½	.30	.37½	June 30, 1919
Ft. Ontario—General Hospital	....	1.00	1.00	....	June 30, 1919
Ft. Rosecrans (1) 2 contracts	1.00	2.50	....	....	June 30, 1919
	...	....	.65	.35	June 30, 1919
Fort Snelling (1)	....	....	....	.27½	June 30, 1919
Columbus Barracks (1)	....	1.10	....	.15	June 30, 1919
Vancouver Barracks (1)	.32	.32	.32	.32	June 30, 1919
Hazelhurst Field (1)	....	.08½	.15½	1.00	June 30, 1919
Del Rio Garrison (1)	....	....	....	.06	June 30, 1919
U. S. Gen. Hospital No. 1 (1)	....	....	1.50	.20	June 30, 1919
Presidio of San Francisco (1)	2.25	5.50	1.51	.41	June 30, 1919
U. S. General Hospital No. 2 (1)	....	8.00	1.00	....	June 30, 1919
Fremont (1) (4)	2.65	7.50	1.50	.41	June 30, 1919
Lee (3) (5)	3.00	3.00	.75	.02½	June 30, 1919
D. Q. M. El Paso (1)	.40	2.10	.50	.45	June 30, 1919
Jefferson Barracks (1) (6)	....	....	1.00	....	June 30, 1919
Fort Constitution (1)	....	....	1.00	6.00 (7)	
Jefferson Barracks (1)	.50	.50	....	.50	June 30, 1919
Fort Worden (1)	.50	.60	.50	.15	
Aer. Gen. Supply Depot (1) (8)	....	8.50	1.00	....	
Fort Benjamin Harrison (1)	10c. per man per month.	....	.25 (9)	....	
		....	2.00 (10)	....	
Raritan Arsenal (1)	¾c. per man per month.	7.00 (11)	....	....	
		4.00 (12)	....	....	

1. Contractor makes collection from messes.
2. Contract for sale of "a," "b," "c" not completed.
3. Contract may be terminated on 30 days' notice, when rendering plant is completed.
4. Cooked grease $11.25 per hundredweight; cooked meat, $3.50 per hundredweight.
5. Cooked grease, $5 per hundredweight; cooked meat $1 per hundredweight.
6. Cooked grease, $12.50 per hundredweight; cracklings, $4 per hundredweight.
7. Cooked grease.
8. Cooked grease, $15.50 per hundredweight.
9. Cooked bones.
10. Green bones.
11. Raw fat per hundredweight.
12. Cooked fat per hundredweight.

1918 was approximately 1,500,000. This figure at 18 pounds per man would give the pork as produced as 27,000,000 pounds for the year.

It is very doubtful if the actual production even reached half of this amount. The above estimate makes no allowance for pigs dying, uneaten garbage and numerous other factors, all tending to diminish the output. It is more than safe to assume, however, that 40 per cent efficiency was attained or that nearly 11,000,000 pounds of pork raised on camp garbage was sold during 1918. With the need of fats and pork products, this was in no sense a small contribution.

THE CONSERVATION AND RECLAMATION DIVISION

The work of the Conservation and Reclamation Division is far more extensive than its title would suggest. Possibly its full field can best be understood by quoting the regulation giving its purpose and function, and by outlining the personnel engaged in salvage work.

The regulation in question (Special Regulations No. 77) reads as follows:

The Salvage Division, in addition to the care and disposition of waste products of the army, is charged with the following:

a. The operation of shops for the repair of clothing,

hats, shoes, rubber boots, rubber coats, ponchos, tents, leggins, cots, stoves, field ranges, saddles, harness, animal-drawn vehicles and other equipment.

b. The operation of plants for laundering, dry cleaning or disinfection of hats, garments, shoes, and equipment pertaining to the army as needed for their salvage.

c. The procurement of repairs and renovation, either by contract or by installation, control, operation, and maintenance of the shops, plants, and facilities needed therefor, or by a combination of contract and operation thereof, as the interests of the service may require.

d. The salvage and development of agricultural, mineral, and forest land owned, purchased, or leased for the army, without interfering with authorized gardening and farming thereon.

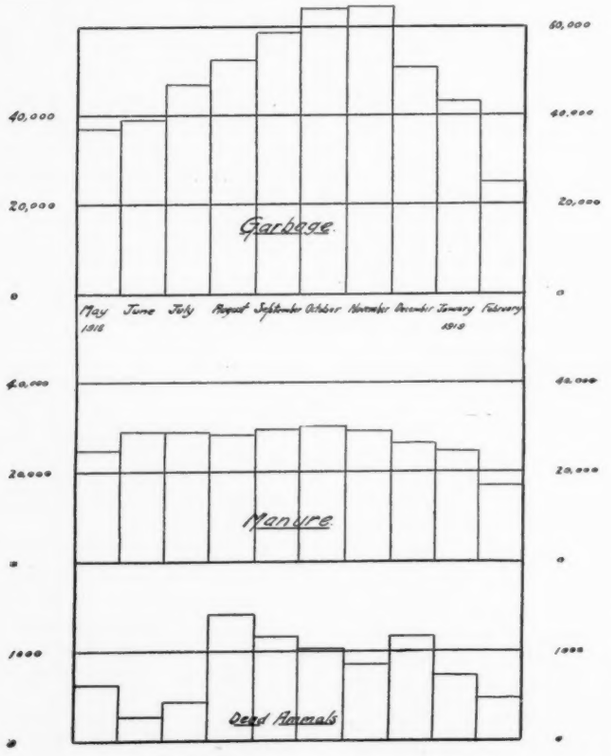
e. The organization, discipline, training, and command of special units, companies and battalions adapted to the efficient operation of each authorized activity mentioned above; to train men in salvage work for service in the United States and overseas; to furnish vocational training to enlisted men in the army; and the hiring of necessary labor when military organizations are not available or are not sufficient.

f. The care and responsibility for all articles turned in for salvage and the disposition thereof.

g. The preventing of all necessary waste resulting from the preparation, handling, and consumption of food, co-operating for this purpose with schools for cooks and bakers; to segregate from the garbage and other waste matter fats and other elements that have a commercial value, and collect, assort, classify, and dispose of waste material in a manner advantageous to the government.

h. The encouragement and promotion among all, by systematic propaganda and salvage; and to impress upon every individual in the army the advantage and necessity of whole-hearted co-operation in the movement to save by intelligent salvage. Everyone in the military service will render all possible assistance in this matter, as it is not intended that the salvage officer will assume the entire responsibility for salvage work.

i. The salvage officer, in conjunction with the constructing quartermaster, will recommend sites for the necessary new buildings for the salvage service at camps, cantonments, posts, etc., subject to the approval of the commanding officer. The sites recommended should permit the proper grouping of the salvage plants in so far as conditions, space, and topography will permit. Warehouses should have proper railway facilities.



REVENUE FROM CAMP WASTES.

SALVAGE ORGANIZATION.

The salvage company authorized for a camp strength of 27,000 or more men is made up as follows:

Section.	Commissioned.	Enlisted.
Headquarters, Administration Section	3	43
Laundry	1	302
Waste Material and Transportation	1	82
Repair Shops	2	..
a. Clothing repairs	..	52
b. Shoe and Harness Repairs	..	47
c. Dry Cleaning and Hat Repairs	..	28
d. Canvas and Hardware Repairs	..	19
Animal-drawn Vehicle Repair	..	15

Table No. 5. Prices Paid for Camp Wastes at Various Camps and Posts.

Contracts Effective July 1, 1918, and now in Force.

Camp or Station.	Price.
Douglas, Ariz.*	$2.10 per kitchen per month
Stephen D. Little*	30.00 per kitchen per month
Marfa*	1.25 per kitchen per month
Stanley*	6.00 per kitchen per month
Barron Field*	12.00 per squadron mess 6.00 per hospital 12.50 per officers
Brooks Field*	8.00 per kitchen per month
Call Field*	7.50 per kitchen per month
Carlstrom Field*	5.10 per kitchen per month
Dorr Field	4.00 per kitchen per month
Kelly Field*	6.00 per kitchen per month
Love Field*	17.50 per kitchen per month
Fort Crockett*	25.25 per kitchen per month
Fort Clark*	3.00 per kitchen per month
Fort Huachua*	6.01 per kitchen per month
Fort McIntosh	5.00 per kitchen per month
Fort Sam Houston*	10.10 per mess & $31.00 per officers kitchen
Watertown Arsenal*	2.00 per kitchen per month
Camp Forrest, Chickamauga Park, Ga.†	1 cent per man per station per month
Camp Forrest (war prison barracks)†	50.00 per station per month
Camp Forrest (general hospital No. 14)†	35.00 per station per month
Camp Forrest (sanitary trains of G. annex)	25.00 per station per month
Camp Forrest (hospital group of G. annex)†	25.00 per station per month
Furlong†	25.00 per station per month
Scurry*	51.00 per station per month
Shelby*	100. per station per month
Yuma†	15.00 per station per month
Fort Keogh	90.00 per station per month
Fort Brady*	15.00 per station per month
Fort McDowell*	75.00 per station per month
Fort McArthur*	3.00 per station per month
Fort Riley*	30.00 per station per month
Fort Miley	16.00 per station per month
Fort Winfield Scott*	100. per station per month
Fort L. H. Roots	15.00 per station per month
Fort H. G. Wright*	30.00 per station per month
Fort Sheridan	40.00 per station per month
Port of Embarkation, Hoboken *	60.00 per station per month
March Field*	30.00 per station per month
Park Field*	45.00 per station per month
Wilbur Wright Field*	60.00 per station per month
General Hospital No. 15*	10.00 per station per month
Army & Navy Hospital*	15.00 per station per month
Fort Omaha*	1,500 per station per annum
Fort Slocum*	100. per station per annum Grease $8.50 per hundredweight, Bones $1.50 per hundredweight
Fort Totten*	200. per station per annum
Letterman General Hospital*	1,000 per station per annum
Holabird§	1.00 per ton
Langley Field* (2 contracts)	1.00 per day
Fort Des Moines*	75 cents per day
Alcatraz*	25 cents per barrel

*Contractor makes collection from messes.
†Contract may be terminated on 10 days' notice pending complete organization of camp; new bids to be requested when camp is organized.
§Cooked fats per hundredweight.

Table No. 5-A—Contract Prices for Kitchen Waste in Various Camps.

Effective July 1, 1918.
Contractor makes collection from mess.

Camp or Station	Price per man per month	Expiration of Contract
Bowie	$7.60 per 150 men per month	June 30, 1919
Dick	.07 per man per month	" " "
Kearny	.01 per man per month	" " "
McArthur	7.75 per 150 men per month	" " "
John Wise	.04½ per man per month	Jan. 1, 1919
Carruthers Field	.08 per man per month	June, 30, 1919
Ellington Field	75.00 per 1,000 men per month	" " "
Mather Field	.06 per man per month	" " "
Rockwell Field	.05 per man per month	" " "
Taliaferro Field	15.00 per 100 men per month	" " "
Fort Moultrie	85.00 up to strength of 1,600	" " "
Fort Stevens	5.05 per 100 men per month	" " "
Fort Thomas	76.00 up to strength of 3,000; $11.00 additional 1,000 men	" " "
Rock Island Arsenal	.02 per man per month	" " "
Madison Barracks	30 up to 1,500; $1.00 for each other 100 men	" " "
Aviation Mechanics' Training School	.06 per man per month	" " "
Presidio of Monterey	.04½ per man per month	" " "
Eagle Pass, Tex.	.01½ per man per month	" " "

Table No. 6—Summary of Sales, Camp Wastes; May, 1918, to March, 1919.

Month 1918	Dead Animals	Manure	Paper, Metal, etc.— Actual Sales	Reissued	Garbage
May	629.05	24,274.05			37,115.88
June	292.55	28,777.28			39,262.88
July	434.50	28,804.99			47,563.12
August	1,417.28	28,133.64			52,408.29
September	1,178.45	29,642,42			58,911.33
October	1,032.63	29,950.83	324,041.45	300,000.00	64,118.43
November	875.70	29,191.40	222,476.74	219.939.92	64.433.46
December	1,183.75	26,452.68	309,964.40	82,629.83	51,019.21
January	736.18	24,541.51	392,203.67	81,937.48	43,600.52
February	483.74	17,527.77	486,749.10	126,283.62	25,065.47

NOTES: The column headed "Reissued" gives the estimated value of materials turned in for salvage but found suitable for use in some branch of the army.
The amounts given under "Garbage" for May and June are payments under the old contract. These payments, while listed in the last column, really represent the amount paid for some of the other camp wastes as well.
The blank spaces of the table for the months following June do not indicate that no sales of the material were made, but rather that the record is not available.
The drop in sales during late months is due to demobilization.

The enlisted personnel of this company consists of men disqualified for any reason for service over seas, except in the case of skilled artisans not obtainable from this source. In the smaller camps, various sections of the salvage company are scaled down to meet the particular requirements at that camp.

The system of reports employed in correlating the data from the various camps, etc., is most interesting and shows that careful regard of detail so necessary when administrative policies are to be based on such reports and data.

In sending in the individual reports, each camp salvage officer notes any reasons for changes from previous reports and such local data as available for consideration when the summary sheets are studied for camp comparisons. It is this system of checks that is responsible for the big reduction in per capita waste and more recently for the checking in the increased waste following the signing of the armistice.

The kindness of Capt. E. M. Mayer, Jr., in charge of the Garbage & Fertilizer Section, in making the records of that section available to the writer, has revealed the painstaking and detailed study which has been given to at least that part of the work of the Reclamation Division, both in headquarters and in the field. The value of the work is unquestionable and the decision to continue the work when the army returns to a peace basis is easily understandable.

The army's experience with the utilization of camp wastes is one that many municipalities can study with much interest and profit. While the details of the army methods may hardly be practicable with the conditions usually found in civil life, the fundamental facts that utilization need not be injurious to health, that it need not cause nuisance, that it is less expensive of operation than other methods. that it is of economical importance to the community and to the nation; these facts hold for civilian "camps" as well as those of the army.

THE LIGHTING PLANT OF ST. CHARLES.

St. Charles, Ill., operates a municipal electric light plant which it believes is a financial as well as a physical success. The city has a population of 5,500 and its government comprises a mayor and six aldermen. The streets are lighted with four hundred type C, 100 c. p., mazda nitrogen lamps. In the main street and adjacent streets are seventy-two 3-light ornamental poles and eighteen 5-light piles. In the three parks of the city are thirty single-light ornamental poles and about fifty small lights. These are in addition to the four hundred street lamps.

The city charges 12 cents net per k. w. h. for electricity, to which price it was raised from 10 cents on June 1st of last year, to which lower price it will again be reduced in all probability, if coal prices should show a substantial reduction. The receipts of the plant have increased from $16,891 in 1914 to $24,405 in 1918. The amount paid out for wages, supplies, extensions and repairs in 1914 was $16,823, while the total for all operation expenses, etc., in 1918 was $20,768. This shows an operating profit of $78 in 1914 and $3,637 in 1918, the profit having been greater each year than the year previous.

This profit makes no allowance for interest or depreciation, but more than $20,000 has been spent out of the income for extensions during the five years, and it is considered that this would be ample to cover these overhead charges. In addition, no credit is given for the street lighting or the lighting of the city hall, fire house, parks, etc., and it is estimated that this has a value of over $26,000 per year. Combining this free lighting and the extensions, we have more than $30,000 a year to cover interest and depreciation, which would seem to be ample.

PRICES OF PAVING AND PAVING MATERIALS

Some Figures Comparing Conditions During the Past Six Years in Fifteen Cities of the Middle Atlantic States and Some Others, and Forecasts for 1919.

In our issue of February 22d we published a number of reports from different sections of the country, giving the prospects of road work and the prices of paving and materials. Among these was one for the middle Atlantic States, prepared by W. A. Howell, engineer of the Bureau of Streets of Newark, N. J. Owing to an attack of "flu," Mr. Howell was unable to tabulate for publication the large amount of data he had collected. These have now been tabulated and are given herewith.

Mr. Howell wishes to acknowledge the courtesies received from the following officials who aided him in preparing his report for the February 22d issue:

Charles A. Rudolph, street and sewer commissioner, Wilmington, Del. Charles M. Upham, state highway engineer, Delaware.

New York; Richmond borough, John E. Bowe, acting com'r of Pub. Works; Queens, J. J. Blake, eng'r of highways; Bronx, S. C. Thompson, eng'r of highways. Albany, Frank R. Lanagan, city eng'r. Yonkers, Lawrence Griffith, city eng. Niagara Falls, W. B. Bennett, city eng. Olean, E. E. Allen, city eng. Schnectady, Lewis B. Sebring, city eng. Binghamton, W. Earl Weller, city eng. Troy, A. E. Roche, city eng. Syracuse, Henry C. Allen, city eng. Utica, Joseph Kemper, city eng. Poughkeepsie, E. W. Sylvester, sup't.

Philadelphia, C. F. Paff, Jr., ass't ch'f eng. Bureau of

COMPARATIVE PAVING—1913 TO 1919.

City.	Year.	Paving done—amount and material; sq. yds. or miles.	COST OF LABOR AND MATERIALS. Labor, per day.	Stone, per cu. yd.	Sand, per cu. yd.	Cement, per bbl.	COST OF PAVING.
Bayonne, N. J.	1916	104,003 asph.; 4,390 granite	$2.00	$1.80	$1.25	$1.85	
	1917	60,683 asph.; 19,324 granite	3.25	1.90	1.25	2.25	
	1918	32,303 asph.	4.50	3.05	2.30	3.25	
	1919	60,000 asph.; 8,500 granite	4.50	3.65	3.00	3.85	
East Orange, N. J.	1914	Bitulithic, 10,423; plain telford macadam, 5,713	1.75	1.40	1.60	1.90	
	1915	Plain telford macadam, 5,658	1.75	1.35	1.75	2.05	
	1916	Asph. block, 16,401; plain telford macadam, 5,600	2.50	1.35	1.80	2.20	
	1917	Wood block, 13,950; asph. block, 6,126.	3.25	2.00	1.80	2.55	
	1918	None	3.75	2.35	2.50	3.40	
Chicago, Ill.	1917	166.56 miles total					
	1918	Brick, 10.23; asphalt, 41.53; wood block, 1.01; granite 0.71; asphalt macadam, 8.86					About 20% to 30% more than 1917.
	1919	No program, probably 50% to 100% more than 1918.					About 30% to 40% more than 1917.
Kansas City, Mo.	1917	31.6 total					
	1918	Brick, 1.1; asphalt, 2.13; macadam, 0.6					About 20% to 25% more than 1917.
	1919	About 500,000 sq. yds. total					About 30% more than 1918.
St. Joseph, Mo.	*1917	6.8 total					
	1918	Asphalt, 0.14; macadam, 0.16					
	1919	Much more than 1918					About 100% more than 1917.
Sedalia, Mo.	1917	12,716 total					
	1918	Brick, 1,754; concrete, 500					
	1919	10 times as much as in 1918					About 30% more than 1918.
New York City: Manhattan	1913	Asphalt, 315,095; asph. block, 6,760; wood block, 121,401; granite, 237,005					Asphalt, $2.39; asph. block, $2.73; wood block, $3.61; granite, $4.29.
	1914	Asphalt, 177,002; asph. block, 3,072; wood block, 56,369; granite, 117,782					Asphalt, $2.11; asph. block, $3.25; wood block, $3.19; granite, $3.90
	1915	Asphalt, 132,347; asph. block, 915; wood block, 6,025; granite, 65,832					Asphalt, $1.68; asph. block, $2.47; wood block, $3.12; granite, $3.74
	1916	Asphalt, 328,171; wood block, 18,176; granite, 86,778					Asphalt, $2.16; wood block, $3.98; granite, $4.41
	1917	Asphalt, 278,191; wood block, 19,705; granite, 137,233; bit. concrete, 6,717					Asphalt, $2.87; wood block, $4.41; granite, $5.37; bit. concrete, $2.75; concrete for foundation, $6.88
	1918	Asphalt, 156,467; wood block, 6,801; granite, 138,349					Asphalt, $4.04; granite, $7.21; concrete for foundation, $9.13
	1919	Total, 2,500,000 sq. yds.					
Brooklyn	1917	Asphalt, 494,128; bit. concrete, 51,265; asph. block, 2,308; granite, 104,827					Asphalt, $2.35; granite, $4.19. Refined asphalt, $21.70 per ton ($13.45 in 1915); Portland cement, $2.22 ($1.41 in 1915); broken stone, $1.90; sand, $1.08
	1918	Asphalt, 94,650; bit. concrete, 36, 124; asph. block, 11,804; granite, 8,777; wood blk., 4,218					Asphalt, $2.34; asph. block, $2.42; granite, $4.21; refined asphalt, $36.00; Portland cement, $2.22; broken stone, $2.48; sand, $1.38.
Richmond	1913	Bit. concrete, 95,771; bit. macadam, 5,954; napped granite, 18,478; relaid granite, 3,377; wood block, 69,133; brick, 8,504.					Bit. concrete, $1.00; bit. macadam, $1.42; napped granite, $1.16; relaid granite, $0.68; wood block, 3", $1.95, 4", $2.34; brick, $1.73
	1914	Bit. concrete, 63,055; bit. macadam, 8,723; granite, 17,441; napped granite, 12,919; wood block, 27,180; brick, 8,908.					Bit. concrete, $0.83; bit. macadam, $0.84; granite, $2.64; napped granite, $1.10; 3" wood block, $1.895; brick, $1.58
	1915	Bit. concrete, 2,475; bit. macadam, 5,619; granite, 5,916; brick, 1,213					Bit. concrete, $0.85; bit. macadam, $1.12; granite, $2.48; brick, $1.73
	1916	Asphalt block, 3,844; bit. concrete, 13,893; bit. macadam, 14,315; granite, 10,130; napped granite, 1,986; relaid granite, 3,241; brick, 4,678					Asphalt block, $1.47; bit. concrete, $1.24; bit. macadam, $0.84; granite, $3.80; napped granite, $1.10; relaid granite, $1.24; brick, $2.03
	1917	Bit. concrete, 110,514; bit. macadam, 7,078; granite, 6,305; brick, 8,897					Bit. concrete, $1.56; bit. macadam, $1.48; granite, $4.38; brick, $2.43
	1918	Bit. concrete, 25,703; bit. macadam, 1,926; granite, 2,681; brick, 1,117					Bit. concrete, $2.55; bit. macadam, $2.00; granite, $5.33; brick, $3.00
Queens	1913	Asph. concrete, 204,504; asphalt, 45,639; asph. block, 103,006; wood block, 65,830; improved granite, 56,973; granite, 364					(Costs do not include base.) Asph. concrete, $1.10; asphalt, $1.28; asph. block, $1.82; wood block, $2.62; improved granite, $3.08; granite, $1.30 (relaid).
	1914	Asph. concrete, 55,885; asphalt, 61,556; asphalt block, 8,922; improved granite, 43,091; granite, 32,346					Asph. concrete, $0.85; asphalt, $1.80; asph. block, $1.72; improved granite, $2.80; granite, $1.72

COMPARATIVE PAVING—1913 TO 1919 (Continued).

City.	Year.	Paving done—amount and material; sq. yds. or miles.	COST OF PAVING.
	1915	Asph. concrete, 2,595; asphalt, 25,104; asph. block, 14,129; imp. granite, 24,618	Asph. concrete, $0.74; asphalt, $0.78; asph. block, $1.56; imp. granite, $2.79
	1916	Asph. concrete, 32,964; asphalt, 50,357; wood block, 1,136; imp. granite, 23,898	Asph. concrete, $0.72; asphalt, $1.09; wood block, $2.58; imp. granite, $3.00
	1917	Asph. concrete, 17,735; asphalt, 80,961; asph. block, 17,616; wood block, 4,862; imp. granite, 32,650; granite, 2,500; bit. macadam, 11,164	Asph. concrete, $0.82; asphalt, $1.31; asph. block, $1.81; wood block, $2.25; imp. granite, $3.22; granite, $3.37; bit. macadam, $1.23
	1918	Asph. concrete, 43,502; asphalt, 30,285; asph. block, 17,857; wood block, 1,928; imp. granite, 15,124; bit. macadam, 4,900	Asph. concrete, $1.38; asphalt, $2.24; asph. block, $2.36; wood block, $3.50; imp. granite, $4.05; bit. macadam, $1.51
Montclair, N. J......	1913	Dolarway, 1,023; Topeka, 4,526; wood block, 3,533	Dolarway, $1.30; Topeka, $1.63; wood block, $2.97
	1914	Asph. telford macadam, 5,899; plain macadam, 1,729; resurfacing, 147,350	Asph. macadam, $0.98; plain macadam, $0.93
	1915	Asph. macadam, 13,773; resurfacing, 624,000	Asph. macadam, $1.36
	1916	Warrenite, 11,590; concrete, 3,950; asph. macadam, 7,496; Topeka, 32,614; resurfacing, about 25,000	Warrenite, $2.17; concrete, $1.52; asph. macadam, $1.26; Topeka, $1.80
	1917	Asph. macadam, 1,480; resurfacing, 160,200	Asph. macadam, $1.49
	1918	Brick, 1,558; Warrenite, 69,922; Resurfacing, 177,180	.....
	1919	Total, 102,500; resurfacing, 160,000	.....
Elizabeth, N. J......	1913	Total 4.43	Total cost, $261,000
	1914	" 2.37	" " 118,000
	1915	" 3.32	" " 139,266
	1916	" 3.61	" " 187,699
	1917	" 2.01	" " 141,108
	1918	" 1.53	" " 120,746
	1919	.....	" " 620,000
Jersey City, N. J.....	1914	Granite, 26,194; brick, 6,329; asphalt, 3,251; wood block, 5,622	Granite, $3.16; brick, $2.16; asphalt, $2.19; wood block, $2.87
	1915	Brick, 19,027; asphalt, 2,974; wood block, 7,270; granite, 15,006; asph. block, 2,616; bit. concrete, 58,549; granite repaving, 3,327	Brick, $2.11; asphalt, $1.97; wood block, $2.65; granite, $3.28; asph. block, $1.97; bit. concrete, $0.95; granite repaving, $1.43
	1916	Asphalt, 2,323; brick, 7,620; granite, 23,730; wood block, 2,730; asph. block, 1,242; bit. concrete, 56,986	Asphalt, $1.89; brick, $1.97; granite, $1.51; wood block, $3.00; asph. block, $2.28; bit. concrete, $0.90
	1917	Wood block, 1,742; asph. block, 4,347; bit. concrete, 568	Wood block, $2.76; asph. block, $2.35; bit. concrete, $1.79
	1918	Asphalt on old stone, 34,800; asphalt on old base, 11,750; bit. concrete, 7,492; granite, 4,238; wood block, 335; bit. concrete on old macadam, 34,000	Asphalt, $2.06 on old stone, $1.97 on old base; bit. concrete, $1.88; granite, $3.84; wood block, $2.58; bit. concrete on old macadam, $1.10
	1919	Let in 1918: asphalt on old stone, 22,500; asphalt on old concrete, 10,310; asphalt, 19,725; bit. concrete, 5,588; bit. concrete on old macadam, 27,000. Not yet let: granite, 86,055; asphalt, 40,840; wood block, 8,800	Asphalt on old stone, $1.80; asphalt on old concrete, $1.47; asphalt, $2.45; bit. concrete, $2.32; bit. concrete on old macadam, $1.10
Passaic, N. J......	1913	Topeka, 4,000; asphalt, 10,510; bitulithic, 16,411; bit. macadam, 27,100	Topeka, $1.69; asphalt, $1.87; bitulithic, $2.19; bit. macadam, $0.90
	1914	Asphalt, 31,420; bitulithic, 5,949; granite, 543; bit. macadam, 32,300	Asphalt, $1.81; bitulithic, $2.19; granite, $3.50; bit. macadam, $0.90
	1915	Asphalt, 27,570; bit. macadam, 32,673	Asphalt, $1.95; bit. macadam, $0.80
	1916	Asphalt, 11,970; bit. macadam, 15,496	Asphalt, $1.69; bit. macadam, $0.85
	1917	Asphalt, 15,080; bit. macadam, 8,140; granite, 96	Asphalt, $2.26; bit. macadam, $1.48; granite, $4.00
	1918	Asphalt, 4,724; granite, 4,457	Asphalt, $3.25; granite, $3.50
Newark, N. J......	1914	Bitulithic, 7.09; granite, 3.47; reclipped granite, 1.83; brick, brick, 1.68; asphalt, 0.63; asph. block, 0.59; wood block, 1.86	Bitulithic, $2.25; granite, $3.18; reclipped granite, $2.29; brick, $2.20; asphalt, $2.04; asph. block, $2.53; wood block, $3.34
	1915	Asphalt, 0.20; asph. block, 0.90; bitulithic, 2.40; brick, 0.13; granite, 1.22; napped granite, 0.24; wood block, 0.91	Asphalt, $1.59; asph. block, $2.83; bitulithic, $2.26; brick, $1.58; granite, $3.05; napped granite, $2.72; wood block, $2.77
	1916	Asphalt, 3.04; asph. block, 0.76; bitulithic, 0.45; granite, 1.10; telford, 0.44; wood block, 0.83	Asphalt, $1.71; bitulithic, $2.20; granite, $3.12; telford, $1.07; wood block, $2.66
	1917	Asphalt, 1.87; asphalt on old base, 0.84; asphalt block, 1.56; bitulithic, 3.06; brick, 0.12; granite, 1.09; napped granite, 0.31; wood block, 1.03; wood block on old base, 0.87	Asphalt, $2.37; asphalt on old base, $1.70; asph. block, $2.38; bitulithic, $2.52; brick, $2.78; granite, $3.45; wood block, $3.44; wood block on old base, $2.54
	1918	Asphalt, 0.97; asphalt on old base, 1.37; asph. block, 0.19; bitulithic, 0.80; brick, 0.07; granite, 0.52; napped granite, 1.15; wood block, 0.34; wood block on old base, 0.04; telford, 0.18; warrenite, 1.34	Asphalt, $2.85; asphalt on old base, $2.28; asph. block, $2.45; bitulithic, $2.91; brick, $3.14; granite, $3.95; napped granite, $2.21; wood block, $4.43; wood block on old base, $4.50; telford, $1.90; warrenite, $2.98
Yonkers, N. Y......	1913	Asphalt, 2,214; asph. block, 15,494; Hassam, 76.032; bit. macadam, 8,138	Asphalt, $2.38; asph. block, $2.65; bit. macadam, $2.46
	1914	Granite, 4,284; asphalt, 47,707; asph. block, 6,158; bit. macadam, 19,013	Granite, $2.62; asphalt, $2.53; asph. block, $2.50; bit. macadam, $1.88
	1915	Granite, 759; asph. block, 35,995; bit. macadam, 5,664	Granite, $3.00; asph. block, $2.45; bit. macadam, $2.50
	1916	Granite, 6,005; asphalt, 18,327; bit. macadam, 41,176	Granite, $3.70; asphalt, $2.49; bit. macadam, $1.82
	1918	Granite, 33,535; bit. macadam, 24,382	Granite, $4.50; bit. macadam, $2.65

Highways. Reading, E. B. Ulrich, city eng. York, C. F. Wallow, city eng. Wilkes-Barre, B. K. Finch, city eng. Norristown, S. Cameron Corson, city eng.

New Jersey state highway eng., W. G. Thompson. Elizabeth, Thos. E. Collins, city eng. Plainfield, Andrew J. Gavett, supt. pub. works. Atlantic City, J. W. Hackney, city eng. Montclair, W. F. Bates, city eng. Passaic, Colin R. Wise, city eng. Bloomfield, Ernest Baechlin, town eng. Trenton, Abraham Swan Jr., eng. of streets. West Orange, Chas A. Winston, town eng. East Orange, W. D. Willigerod, city eng. Orange, W. Crane, city eng. Jersey City, Chas. E. Van Keuren, ch'f eng.

Prices Paid for Materials.

City. Year.	Labor.	Broken stone.	Gravel.	Sand.	Cement.
New York:					
Queens:					
1913	....	$2.65	....	$1.12	....
1914	....	2.39	$2.07	1.03	....
1915	....	1.79	1.47	.94	....
1916	....	2.19	1.71	.91	....
1917	....	2.29	1.44	1.15	....
1918	....	2.79	2.47	1.42	....
Bronx:					
1913	$2.50	1.96	....	1.29	....
1914	2.50	1.95	1.95	1.10	....
1915	2.50	1.285	1.87	1.10	....
1916	2.50	1.59	1.37	.89	$1.68
1917	2.50	1.88	2.90	1.03	2.28
1918	3.00	2.43	2.75	1.75	2.34
1919	3.25	2.62	....	....	3.50
Syracuse, N. Y.:					
1913	1.50	1.70y	....	1.00y	1.35
1914	1.50	1.70y	....	1.00y	1.35
1915	1.50	1.70y	....	1.00y	1.18
1916	1.60	1.70y	....	1.00y	1.50
1917	2.00	2.00y	....	1.25y	1.79
1918	3.20	2.25y	....	1.75y	2.25
Binghamton, N. Y.:					
1916	2.00-2.40	....	1.50y	1.75y	1.60
1917	2.64-3.00	....	1.50y	1.75y	2.00
1918	3.20-4.00	....	1.75y	2.00y	3.25
Niagara Falls, N. Y.:					
1913	1.60	.66t	1.75y	0.83t	1.50
1914	1.60	.66t	1.75y	.83t	1.75
1915	2.00	1.07t	1.75y	.92t	1.75
1916	2.40	1.12t	1.75y	.95t	1.80
1917	2.80	1.12t	1.75y	.95t	2.00
1918	4.00	1.55t	2.25y	1.16t	3.25
Utica, N. Y.:					
1913	.20	....	....	.62t	....
1914	.20	....	....	.62t	....
1915	.20	....	....	....	1.39
1916	.22	1.29t	....	.62-.79t	1.82
1918	.40	2.00t	....	1.05t	3.52
Jersey City, N. J.:					
1913	....	1.35y	....	.80y	1.75
1914	....	1.35y	....	.75y	1.75
1915	....	1.35y	....	.75y	1.60
1916	....	1.35y	....	.80y	1.66
1917	....	1.75y	....	1.00y	1.77
1918	....	3.00y	....	2.00y	2.60
1919	....	3.00y	....	2.00y	4.00
Newark, N. J.:					
1913	....	1.85y	....	1.25y	1.85
1914	....	1.85y	....	1.25y	1.70
1915	....	1.85y	....	1.25y	1.65
1916	....	1.85y	....	1.15y	2.05
1917	....	1.85y	....	1.25y	2.60
1918	....	2.85y	....	2.15y	3.35
Reading, Pa.:					
1913	....	1.10t	....	....	....
1914	....	1.30t	....	....	....
1915	....	1.07t	....	1.05t	....
1916	....	1.26t	....	....	1.80
1917	....	1.53t	....	1.44t	2.50
1918	....	1.83t	....	2.25t	3.10
Houston, Tex.:					
1917	22½-25	....	1.50y	1.00y	....
1918	35-40	....	....	1.25y	....
1919	37½-40	....	1.50y	1.25y	....
Ft. Worth, Tex.:					
1917	25	2.50y	1.50y	1.50y	....
1918	30	3.00y	1.90y	2.00y	....
1919	35-37½	2.50-3.00	2.00y	2.25y	....
Ardmore, Okla.:					
1918	....	2.50y	2.00y	2.00y	....
1919	....	2.80y	2.40y	2.40y	....

Note: y—per cubic yard; t—per ton.

The chief engineer of the department of public service of Columbus, O., Henry Maetzel, a few weeks ago made a study of the matter of prices in that city from the year 1910 to date, in order to show the trend; these covering the features of grading, straight curb, circle curb, brick pavement and asphalt pavement. In the matter of grading, the average contract price per cubic yard (measured in place and including disposal of the material) increased more or less uniformly from 44 cents in 1910 to 80 cents in 1917, increasing to $1.03 in 1918, and falling to 83 cents in the single bid so far received in 1919. The maximum bid in 1919 was $1.25 and the minimum bid was 70 cents.

For straight curb of Berea sandstone, 5 by 18 inches, set on six inches of gravel and backed with six inches of gravel, the average price increased uniformly from 46 cents per lineal foot in 1910 to 53 cents in 1916, was 64 cents in 1917, 80 cents in 1918 and 75.6 cents in 1919; the maximum in 1919 being 88 cents and the minimum 70 cents. For circular curb, similar in other respects to the straight curb, the average price increased uniformly from 88.5 cents in 1910 to $1.42 in 1916; was $1.20 in 1917, $1.60 in 1918, and fell to $1.375 in 1919, the maximum being $1.50 and the minimum $1.25.

For brick pavement, including six-inch concrete base and one-inch sand cushion, the average price increased from $1.586 in 1910 to $1.91 in 1914, fell to $1.65 in 1915, was $1.848 in 1916, $2.274 in 1917, $3.51 in 1918, and $3.425 in 1919, the maximum bid this year being $3.43 and the minimum $3.42.

For asphalt pavement, comprising a one-inch binder course and a two-inch surface course laid on six-inch base, the average price increased gradually from $1.77 in 1910 to $1.942 in 1915, rising to $2.078 in 1916, $2.28 in 1917, and to $3.612 in 1919. (No asphalt pavement was laid in 1918.) The maximum bid in 1919 was $3.69 and the minimum was $3.54.

The minimum prices were, as might be expected, more irregular in their variations than were the averages, but those for grading and curbing followed very nearly parallel to the average in each case. In the case of brick pavement, the minimum paralleled the average except in 1913 and 1917, when individual low bidders offered prices 30 cents below the average in the former year and 80 cents below in the latter. In the case of asphalt pavement, the minimum ran about eight to fifteen cents below the average except in 1915, when one low bidder was 24 cents below the average.

KEEPING TRUCK COSTS.

Most large users of trucks, both municipal and private, endeavor to keep a record from which can be calculated the cost of operation and by which can be compared the efficiency of the drivers as well as of the various makes of trucks. The methods of keeping itemized costs vary more or less, and the results obtained by them consequently vary, so that comparisons between different cities or companies is not as instructive as it should be. Moreover, some of the systems are undoubtedly more accurate or informative than others. In an investigation of this matter, considerable variations were found to exist between the records of companies where supposedly accurate truck costs are being kept, such variations amounting to 65 per cent in the depreciation or sinking fund records, 21 per cent in handling maintenance charges, and 13 per cent in keeping tire costs.

Appreciating the value of a standardized cost system that could be applied to all makes of trucks, both electric and gasoline, in every kind of business, truck owners and manufacturers got together and, after fifteen months' study of dozens of previous cost systems, perfected what they have called the "national standard truck cost system"; and it is reported that already the costs of over 18,000 trucks are being kept by this system. This system has been drawn up and printed in a folder, each containing forms sufficient for one truck for one year. These folders can be obtained at 25 cents each (which is the bare cost) by applying to Harold P. Gould, chairman, Truck Owners' Conference, 327 South LaSalle St., Chicago.

NEWS OF THE SOCIETIES

May 6-8.—NATIONAL FIRE PROTECTION ASSOCIATION. Annual convention. Ottawa, Can. Secretary, Franklin H. Wentworth, 87 Milk St., Boston, Mass.

May 13-14—AMERICAN ASSOCIATION OF ENGINEERS. Annual meeting, Chicago, Ill. Secretary, C. E. Drayer, 29 South LaSalle St., Chicago, Ill.

May 14-15.—LEAGUE OF TEXAS MUNICIPALITIES. Seventh annual convention, Sweetwater, Tex. Secretary-treasurer, Frank M. Stewart, University of Texas, Austin, Tex.

May 19-24.—NATIONAL ELECTRIC LIGHT ASSOCIATION. Annual convention, Atlantic City, N. J. Secretary, T. C. Martin, 29 W. 39th St., New York.

June 9-13.—AMERICAN WATER WORKS ASSOCIATION. Thirty-ninth annual convention, Iroquois Hotel, Buffalo, N. Y. Secretary, J. M. Diven, 47 State street, Troy, N. Y.

June 17-20.—AMERICAN SOCIETY OF CIVIL ENGINEERS. Annual meeting, St. Paul-Minneapolis. Secretary, Charles W. Hunt, 33 W. 39th St., New York, N. Y.

June 23-26. — SOUTHWESTERN WATER WORKS ASSOCIATION. Annual convention, Coates House, Kansas City, Mo. Secretary, E. L. Fulkerson, 617 Washington St., Waco, Tex.

June 24-27. — AMERICAN SOCIETY FOR TESTING MATERIALS. Twenty-second annual meeting, Hotel Traymore, Atlantic City, N. J. Secretary, University.

June 24-27.—INTERNATIONAL ASSOCIATION OF FIRE ENGINEERS. Annual convention, Kansas City, Mo. Secretary, Gen. Fire Marshal James McFall, Emergency Fleet Corporation, U. S. Shipping Board, Philadelphia, Pa.

Nov. 12-14.—AMERICAN SOCIETY FOR MUNICIPAL IMPROVEMENTS. Annual convention, New Orleans, La. Secretary, Charles C. Brown, Bloomington, Ill.

Conference on National Department of Public Works.

A conference of engineering and architectural organizations was held in the assembly hall of the Western Society of Engineers at Chicago, April 23-25, in response to a call issued by the Engineering Council, New York, through the National Service Committee of the Council, M. O. Leighton, Secretary, 502 McLachlen Bldg., Washing, D. C. The engineering and architectural organizations that responded to the call were 76 in number, with a membership of over 98,000 persons, and were represented by 70 delegates. In addition the Council was represented by 7 members and the National Service Committee by two.

Although all sections of the country responded to the call by sending delegates from organizations interested in every phase of engineering and architectural activity, there was a decided unanimity of purpose and ideas and the lively and extended debates developed no factional differences. This can be accounted for by the sincere desire of all the delegates to lend every possible aid to the purpose of the conference—that of establishing a National Department of Public Works. Another striking feature of the conference. Even if the object of the conference be not realized, the friendly and respectful intercourse between the two professions there established will well repay the expenditures of effort that were made in carrying out the conference program.

The conference was organized by the selection of M. O. Leighton as chairman and E. S. Nethercut as secretary. Seven sessions of the conference were held and a complimentary banquet was given by the General Committee of Technical Societies of Chicago to the delegates. An extended discussion of principles and scope of a National Department of Public Works resulted in the adoption of an expression favoring the establishment of such a governmental department. The various phases of this discussion touched many phases of engineering development and government administration. The result in form of resolution follows:

"This conference of delegates from engineering and related organizations respectfully recommend to the public and to the Congress, that legislation be enacted covering the following principles:

(1) That the services and bureaus of the National Government having to do chiefly with matters of engineering and architecture, be grouped in one department to be known as the Department of Public Works.

(2) That the Department of Public Works comprise those works which are built and operated for the use of the Public.

(3) That the Department of Public Works be made available when desirable for the performance of special engineering and architectural work for the use of other Government bureaus.

(4) That there be a systematic classification and organization of engineers, architects and other employes whose status shall be such that they may be recruited and maintained on merit."

Under leadership of the Committee on Government Engineering Activities, there was an extended discussion in which the limits of the proposed department were considered. As the Department of the Interior employs at this time more engineers than any other department in the world, it was decided that the department was the one most adaptable to being transformed into a Department of Public Works. To this Department it is proposed to transfer the various Bureaus now operating in other Departments

(*Continued on page 330*)

PROBLEMS CITIES ARE STUDYING WITH EXPERTS

Weatherford, Tex., is having plans prepared by the consulting engineers, H. E. Elrod Co., for PAVING IMPROVEMENTS, to cost about $180,000.

Corning, Ia., is having plans prepared by the consulting engineers, Archer & Stevens, for the construction of a SEWAGE DISPOSAL PLANT and 25,000 feet of sanitary sewers.

Sharon Springs, Kans., is to make WATERWORKS and ELECTRIC LIGHT PLANT IMPROVEMENTS, for which preliminary plans have been prepared by the consulting engineering firm of Black & Veatch.

HIGHWAY WORK, involving the construction of about fifty-five miles from Little Rock to Hot Springs, Ark., is to be begun soon. Plans were prepared by the consulting engineers, Lund & Hill.

WATERWORKS IMPROVEMENTS to cost $1,000,000 are to be made by Elyria, O., including entire new plant, filter house, etc., plans for which have been prepared by the consulting engineer, W. G. Clark.

Floyd County, Rome, Ga., is to build a concrete HIGHWAY from Rome to Lindale, three and a half miles in length, for which $110,000 is available. Plans are being prepared by the consulting engineers, the J. B. McCrary Co.

Fairmont, W. Va., is to build an addition to FILTRATION PLANT, the estimated cost being $110,000. The consulting engineer is George W. Fuller.

WATERWORKS IMPROVEMENTS are to be made by the city of Henrietta, Okla., to cost $350,000, plans having been prepared by the consulting engineers, Burns & McDonnell.

Lorain, O., is having plans prepared by the Filter Manufacturing Co., consulting engineers, for WATERWORKS IMPROVEMENTS to cost $100,000, including filter house, two settling basins, etc.

Bryan, O., is to make WATERWORKS IMPROVEMENTS, including storage reservoir of 1,000,000 gallon capacity, two deep wells, etc., to cost $100,000. The consulting engineer is A. H. Smith.

Newark, N. Y., has voted $280,000 bonds to build a gravity WATER SUPPLY SYSTEM, including 1,000,000-gallon rapid sand filtration plant, earth dam and dike, etc. The consulting engineer is J. P. Wells.

PAVING IMPROVEMENTS, involving the construction of approximately fifteen miles of combined curb and gutter, will be made by the city of Washburn, Wis., according to plans prepared by the consulting engineer, W. F. Reichardt.

INDUSTRIAL NEWS

The Iron and Steel Situation.

There seems to be little hope of breaking the deadlock over the price stabilization plans of the administration, although, following a cable from President Wilson, the Industrial Board held further conferences with representatives of the Railroad Administration. The latest development is the handing in of resignations of all the members of the Industrial Board to Secretary Redfield—but these have not been accepted so far.

Meanwhile buyers of steel seem to be marking time. A real open market is expected, but there is no telling when it will come. There is an open market at present theoretically, but there is no tendency to extensive or spectacular price cutting.

The larger steel companies seem to be planning to continue business on the basis of the prices agreed upon between the Industrial Board and the manufacturers some time ago, no matter what may be the outcome of the controversy in Washington.

An official of one of the large steel companies has predicted that there would be no price cutting campaign unless it was undertaken by some of the smaller producers, in which case it would not be important, and insisted that the price of steel would not be lower during the remainder of the year. On the other hand he was inclined to the belief that it might be considerably higher before fall.

In the cast iron pipe market, activity in the south is noted, many cities which have not bought for four years now being forced to purchase. In the cast, however, there is little municipal buying because of prices. Quotations: Chicago—4-inch, $59.80; 6-inch and larger, $56.80. New York—4-inch, $60.70; 6-inch and larger, $57.70; class A, $1 extra.

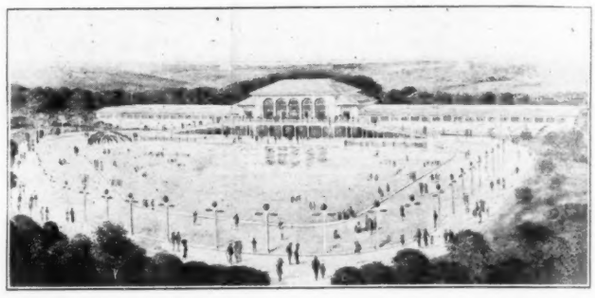
Nicholas S. Hill, Inc., and S. F. Ferguson, consulting engineers, announce the removal of their engineering offices and laboratory from 100 William st., to 112 East 19th st., New York City, on May 1.

Colombian Market for Road-Building Material.

According to trade commissioner P. L. Bell, the Department of Bolivar, Colombia, has authorized the construction of new roads and extensive repairs and surfacing of old roads along the western coast, a total distance of 450 kilometers (280 miles). For this the following road-building equipment will be needed: Auto trucks (automatic dumping type), scrapers (wheel type and ordinary), large road rollers (steam type), grading machines, ditching machines (gas engine drive), miscellaneous tools, and culvert material. At present there is an annual contribution of $150,000 for new roads and the Department is negotiating a new loan of $2,000,000 with which to actively push this work. (The name of the official to whom inquiries should be addressed may be obtained from the Bureau of Foreign and Domestic Commerce at Washington or its district and cooperative offices by reference to file No. 40197.)

Water of Big Pool Ozonized.

A large, modern and well-equipped swimming pool is to be opened this year to the public at New Krug park, Omaha, Neb. The contract for purifying the water has been awarded, after competition, to the **Ozone Company of America,** Milwaukee, Wis.



SWIMMING POOL PURIFIED BY OZONIZATION, OMAHA, NEB.

The pool itself will extend over more than an acre and the beach, which entirely surrounds the pool, will cover a similar area. Bath house facilities are provided for accommodating 4,000 persons at one time, or up to 15,000 to 20,000 during the day and evening. To fill the pool, more than 1,000,000 gallons of water will be needed, which will be taken from the regular city supply, and, after treatment, will be kept in constant circulation through the pool, a complete change of water being made every 12 hours.

All of the water, before it enters the pool, will be screened, coagulated, filtered and finally completely purified by ozonization to destroy all bacteria, the Ozone Company installing the necessary equipment. In addition, the water will be aerated by constant circulation over large cascades.

The accompanying illustration shows a view of the pool.

NEWS OF THE SOCIETIES

(*Continued from page* 329)

and to detach many of the Bureaus now included in the Department of the Interior.

The inability of securing an additional Department and cabinet member was well understood and the proposed plan follows the line of least resistance. A vote was taken on the various factors entering into the proposed scheme for the guidance of the Committee which at a subsequent session presented the following report, which was adopted:

Your Committee charged with a consideration of the question which Government activities should be coordinated in a National Department of Public Works, recommends:

1. That the establishment of a National Department of Public Works should be accomplished by grouping those Government bureaus, services, commissions and other activities whose functions are predominately of an engineering or architectural character, in which is now the Department of the Interior and thereafter designating that Department "The Department of Public Works."

2. That the transfer of any bureau, service or commission from any other Department to a Department of Public Works should be accomplished without change in personnel, compensation and general plan of organization, leaving the coordination of the several activities; the simplification of organization and the establishment of additional bureaus such for example, as a Bureau of Chemical Engineering, to be effected as the need for the same may from time to time become apparent.

3. That in transferring river and harbor work and other non-military in character, but now in charge of the Engineer Corps of the United States Army, to a department of Public Works, the relation of the Army engineers to such work be not changed that there should be no relinquishment of non-military duty by the Army engineers now on such duty until the transfer of these Engineers to Military Duty can be made without detriment to the Public Interests.

Your Committee finds that among the bureaus, services and activities which logically belong in a Department of Public Works are the following:

A Bureau of Public Roads.
The United States Reclamation Service.
The Alaskan Engineering Commission.
The Construction Division of the U. S. Army.
A Bureau of River, Harbor and Canal work including such functions as are now exercised by the Mississippi River Commission, and the California Debris Commission.
A Bureau of Architecture.
A Bureau of Surveys, including the Coast and Geodetic Survey.
A Bureau of Mines.
The Geological Survey.
The Forest Service—at least until the same is divorced from the supervision of water powers and road building.
The Bureau of Standards.

Your Committee believes that it would be unwise to determine at this time to what extent the proposed Department of Public Works should control the engineering activities of the General Land Office; of the National Park Service; of the Bureau of Lighthouses; of the Bureau of Indian Affairs, and of the Public Health Service and of various commissions, such as Commissions on buildings and grounds, and therefore suggest that such matters may well be deferred for consideration to a later date, preferably until the Department has been organized.

(Signed) C. E. Grunsky, J. Parke Channing, James H. Herron, Irving K. Pond, Baxter L. Brown, P. Junkersfeld, Frederick K. Copeland, W. O. Hotchkiss.

It was decided that this conference should not attempt to draft a bill, for presentation to the Congress, establishing a Department of Public Works. The care and labor involved in such an undertaking was fully appreciated and the efforts of the conference were restricted to indicating the plan and scope of such a Department.

The following resolution was adopted: "That this conference be known

as Engineers, Architects and Conference on National Department of Public Works, that it continue in existence until dissolved by its own action and that its officers and committees be empowered to further the development of a National Board of Public Works."

As indicated in the resolution, the organization of the conference was made permanent and its termination provided for. This enabled the conference to appoint an Executive Committee, Committee on Text of Bill and a Campaign Committee. The Executive Committee has power to create a Finance Committee and add to the members. The Campaign Committee consists of:

M. O. Leighton, chairman, Washington, D. C.; Francis Blossom, New York; Frederick K. Copeland, Chicago; Daniel A. Garber, New York; Cass Gilbert, New York, C. E. Grunsky, San Francisco; F. Jnkersfeld, Boston; C. F. Loweth, Chicago; Phillip N. Moore, St. Louis; F. H. Newell, Urbana, Ill.; M. C. Tuttle, Boston; W. O. Winston, Minneapolis; C. B. Burdick, Chicago; W. H. Nichols, New York.

The Committee on Text of Bill consists of:

M. O. Leighton, chairman ex-officio; John W. Alvord, Chicago; A. S. Baldwin, Chicago; Lincoln Bush, New York; W. K. Hatt, La Fayette, Ind.; E. H. Lee, Chicago; Irving K. Pond, Chicago; Isham Randolph, Chicago; Gardner S. Williams, Detroit; Horace S. Winchell, Minneapolis; Charles T. Main, Boston.

Among the delegates present were the following:

W. L. Abbott, American Society of Mechanical Engineers; A. J. Baldwin, American Society of Civil Engineers; W. H. Finley, American Association of Engineers; Samuel A. Greeley, American Public Health Association; C. E. Grunsky, Pacific Association of Consulting Engineers; Edward Haupt, Association of General Contractors of America; W. O. Hotchkiss, American Association of State Highway Commissioners; E. J. Mehren, American Road Builders' Association; Leonard Metcalf, American Water Works Association; E. C. Millard, American Civic Association; Isham Randolph, Western Society of Engineers; E. C. Shankland, American Institute of Consulting Engineers; John B. Taylor, American Institute of Electrical Engineers; F. A. Vaughn, Illuminating Engineering Society.

National Fire Protection Association.

The twenty-third annual meeting of the National Fire Protection Association will be held at Ottawa, Canada, May 6, 7 and 8, in the ballroom of the Chateau Laurier. On Tuesday morning following addresses of welcome by the Duke of Devonshire, Governor General of Canada, and Mayor Harold Fisher of Ottawa, and reports of officers of the association, a number of important committees will present their reports. These will include the committees on Public Information (Franklin H. Wentworth, Boston, chairman); State Fire Prevention Associations (Thomas R. Weddell, Chicago, chairman), twelve states being represented; Canadian Committee (John B. Laidlaw, Toronto, chairman); Fire and Accident Prevention Day (H. P. Weaver, Philadelphia, chairman), and Manufacturing Risks and Special Hazards (Benjamin Richards, Chicago, chairman). There will be presented five-minute reports from local chapters and organization members on work in fire prevention.

The afternoon session will be devoted to reports by the committees on the following subjects: Automatic Sprinklers (C. L. Scofield, Montreal, chairman); Field Practice (C. H. Patton, Cleveland, chairman); Nomenclature (Mason R. Strong, New York, chairman), and Fire-Resistive Construction (Ira H. Woolson, New York, chairman). These reports will be followed by a paper on "Certificates of Occupancy," by Rudolph P. Miller, New York, and discussion.

On Wednesday morning the three committees on the following subjects will report: Electrical Committee (Dana Pierce, New York, chairman); Signaling Systems (Ralph Sweetland, Boston, chairman), and Safety to Life (H. W. Forster, Philadelphia, chairman).

This session will be followed by a luncheon arranged by the Canadian Committee. W. H. Shapley, chair- of the Dominion Fire Prevention Committee, will preside and Sir Thomas White, K. C. M. B., Acting Prime Minister of Canada, will speak. In the afternoon, the new Parliament Building which is being erected on the site of the one burned in 1915, will be inspected. There will follow a display of the Ottawa fire department in front of the building, under Chief J. W. Graham. The delegates will then enjoy a drive, tea being served at the Experimental Farm.

In the evening there will be a public fire prevention meeting in Collegiate Institute, at which Edward P. Heaton, Fire Marshal of Ontario, will preside. A motion picture, "An Unbeliever Convinced," will be shown by courtesy of the Underwriters' Laboratories. A. R. Small will deliver an address on "Underwriters' Laboratories, An Internation Public Service," illustrated by motion pictures of laboratory tests. Franklin H. Wentworth will speak on "The National Fire Prevention Association: International."

On Thursday morning committees on the following subjects, under the chairmen named, will report: Marine Fire Hazards (Samuel D. McComb, New York); Fire Pumps (H. O. Lacount, Boston); Gases (J. I. Banash, New York); Inflammable Liquids (Edward A. Barrier, Boston); Hazardous Chemicals and Explosives (George W. Booth, New York); Standardization of Pipe and Pipe Fittings (Walter Teague, New York). Motion pictures of Tests of Automatic Sprinklers in Film Storage Vaults will be shown by J. F. Ancona, by courtesy of the Eastman Kodak Co.

A business session and election of officers will follow. These names have been submitted by the nominating committee: For president, Mr. F. J. T. Stewart (New York); for 1st vice-president, Mr. H. O. Lacount (Boston, Mass.); for 2nd vice-president, Mr. W. E. Mallalieu (New York); for secretary-treasurer, Mr. Franklin H. Wentworth (Boston, Mass.); for chairman of executive committee, Mr. Rudolph P. Miller (New York); for executive committee (for three years), Mr. D. Knickerbacker Boyd (Philadelphia); Mr. J. H. Brumbaugh (Chicago); Mr. John H. Kenney (Baltimore); Mr. John B. Laidlaw (Toronto); Mr. Willis O. Robb (New York); (for two years), Mr. Edmund L. Sanders (Worcester); for nominating committee (1920), three members, Mr. F. E. Cabot (Boston), chairman; Mr. W. H. Merrill (Chicago); Mr. T. B. Sellers (Columbus).

New York State Conference of Mayors and Other City Officials.

The New York State Conference of Mayors and Other City Officials will be held this year at Schenectady, on June 10 to 13.

PERSONALS

Blair, A. C., Lyons, Kan., has been appointed to the Kansas state highway commission, succeeding E. R. Moses, resigned

McLean, Capt. John A., has been appointed city engineer of Crookston, Minn., succeeding A. Hunt, who resigned on account of ill health.

Governor Kilby, of Alabama, has appointed F. J. Cramton, of Montgomery, John Craft, of Mobile, and S. R. Batson, of Birmingham, as the appointive members of the state highway commission. Senator John Craft is a member of the present commission and is one of the original good roads advocates in this state having devoted much of his time and attention to highway improvements for more than thirty years. F. J. Cramton is president of the Alabama Highway Improvement association and a successful business man. S. R. Batson is county road engineer of Jefferson county and is recognized as an expert.

Governor Goodrich of Indiana has appointed John Oliphant of Vincennes, Earl Crawford of Connersville, David C. Jenkins of Kokomo and Archibald Campbell of Kendellville as members of the new state highway commission.

Governor Bickett of North Carolina has appointed the following to the new state highway commission: Lieut. Frank Page, of Aberdeen, chairman, term of six years; John E. Cameron, of Kinston, four years, James K. Norfleet, of Winston-Salem, two years, and James G. Strikeleather, of Asheville, two years.

Buck, Ross J., contracting engineer, has been appointed assistant engineer for the Board of Sanitary Commissioners, Indianapolis Sanitary District.

Troskel, F. A., is now appointed city engineer of Marquette, Mich.

Judson, Hale D., following his resignation from the position of city engineer of St. Joseph, Mo., is now connected with the state highway engineering department.

LEGAL NOTES

A Summary and Notes of Recent Decisions—Rulings of Interest to Municipalities

City Must Protect Highways.—Liability for Injury.

(N.Y.Sup.) It is duty of municipal corporation to erect railings or barriers along highway at points where necessary to make it safe and convenient for travelers in use of ordinary care, and it is liable for injuries resulting from breach of such duty.—Johnson v. State, 173 N. Y. S. 701.

Defective Condition of Street.—Liability of City.

(Okl.) A city need not have actual notice of condition of its streets with respect to liability for a resulting injury, and it is sufficient that defective condition had existed for such time that city in the exercise of ordinary care could have discovered it.—City of Cushing v. Bowdlear, 177 P. 561.

The defense of contributory negligence, in an action against a city for personal injury from alleged unsafe condition of street or sidewalk, is an affirmative defense which must be pleaded and proved.—Id.

Power to Levy License Taxes on Utilities Corporations.

(Va.) As Const. 1902, § 177, and Tax Bill 1916, §§ 28, 36½, forbid cities from levying any license taxes on railway companies, and from levying license taxes in excess of one-half of 1 per cent. upon corporations furnishing water, heat, light, or power, held, though a previous franchise ordinance, accepted by the predecessor of a company engaged in transporting passengers and furnishing light reserved the power to tax the property of the company and to levy a license tax, the city, in view of Code, § 558, could not levy a license tax on the company's street railway business, or license tax upon its business of furnishing light, etc., in excess of the amount allowed by statute, on the ground the license charges were compensation for use of the streets.—City of Lynchburg v. Lynchburg Traction & Light Co., 97 S. E. 780.

Destruction of Property by Police in Abatement of Nuisance.

(Wash.) In action to recover for property destroyed by police officers, held, that complaint could not be taken to allege that any court of defendant city had determined that plainiff's place of business was a nuisance, in view of Rem. Code 1915, § 287, as to manner of pleading determination of court or officer of special jurisdiction.—Hotel Cecil Co. v. City of Seattle, 177 P. 347.

In an action to recover for property destroyed by police officers, complaint held not to warrant inference that it had been determined, on account of any ordinance that plaintiff's place of business was a nuisance, in view of Rem. Code 1915, § 291, as to manner of pleading ordinance.—Id.

If police officers, who wrongfully destroyed property in plaintiff's place of business in summary abatement of nuisance, acted as agents of defendant city with respect to corporate duties and functions of city, as contradistinguished from those relating to the general public, the city would be liable.—Id.

If council of city of Seattle had not, by ordinance pursuant of Rem. Code 1915, § 7507, and charter, framed and adopted pursuant to section 7494, defined nuisances, or determined that plaintiff's place of business or property constituted a nuisance, the city would not be liable for property wrongfully destroyed by police officers in summary abatement of nuisance, regardless of whether the action was for negligence or trespass.—Id.

Ice on Sidewalk—Liability of City.

(Minn.) In an action for injury by falling over snow on a sidewalk, evidence as to the number of miles of sidewalk in city was admissible as bearing on its negligence in respect to time within which it should remove the snow.—Olson v. City of St. Paul, 170 N. W. 586.

In an action against a city for personal injury from defect in a street, evidence that the city made repairs after the injury was incompetent to establish plaintiff's negligence.—Id.

The duty of a city to keep its sidewalks in a safe condition for travel is not limited to structural defects, but extends to dangerous accumulations of ice and snow.—Id.

City's duty to keep its sidewalks in a safe condition for travel in respect to ice and snow requires reasonable care, in view of climatic and other conditions, and that after a sudden snowstorm they must be put into safe condition within a reasonable time.—Id.

Death from Police Automobile—Liability of City.

(Iowa) In an action against a city for wrongful death of plaintiff's intestate, resulting from the automobile which intestate was driving being struck by the city's police automobile, the burden of proof was upon the city to establish its affirmative defense that its driver was engaged in a governmental act.—Jones v. Sioux City, 170 N. W. 445.

In an action for death of plaintiff's intestate, caused by automobile which intestate was driving being struck by a city automobile running 45 miles an hour, evidence that the city's driver under his employment drove such automobile in performance of ministerial or corporate duties, at other times not too remote, was erroneously excluded, where the city sought the inference that such automobile was used exclusively for police purposes, from the word "police" appearing thereon.—Id.

A city is liable for the negligent acts of its servants when acting in a ministerial or corporate capacity.—Id.

The use of a city automobile to haul policemen to their beats in outlying districts is ministerial and corporate, and not governmental, as relating to enforcement of law, particularly where the city's driver was not a policeman.

Police officers, in the performance of their duty in making arrests and the like, are engaged in duties of a public nature, and the city is not liable for their negligence in performing such acts, if they bear some just and true relationship to the enforcement of law.—Id.

Sidewalks on Steep Grade—Liability of City.

(N.Y.Sup.) Whether sidewalks shall be constructed on grade to conform with grade of street, or with abrupt grades, as by inserting steps, ordinarily is matter of judgment for municipal authorities, for error with respect to which city is not answerable, until it is shown walk is dangerous, and it has actual or constructive notice in time to remedy condition.—Hesse v. City of New York, 173 N. Y. S. 827.

Where slope of sidewalk, on which plaintiff was injured by slipping while descending grade when walk was dry, was no greater than may be seen at different points on sidewalks of all municipalities, city was not liable for injury.—Id.

Ministerial Functions of Municipal Officers—Legitimate Acts—Condemnation Arbitration.

(Tenn.) A purely ministerial function of a municipal officer is one as to which nothing is left to discretion, while legislative acts involve the exercise of discretion and judgment.—Lotspeich v. Mayor and Aldermen of Town of Morristown, 207 S. W. 719.

The powers possessed by municipal officers must be viewed as public trusts, and legislative powers of the board of mayor and aldermen cannot be delegated to the mayor, although mere ministerial powers may be so delegated.—Id.

Where Acts 1903, c. 103, under which a city was incorporated, vested in the board of mayor and aldermen all power to contract, an arbitration agreement made by the mayor with one whose property the city desired to condemn for a new city hall building was void, for, though the board of mayor and aldermen by resolution directed the mayor to enter into a written agreement of arbitration, and select arbitrators, held, that such acts involved discretion, and the power to perform the same could not be delegated.—Id.

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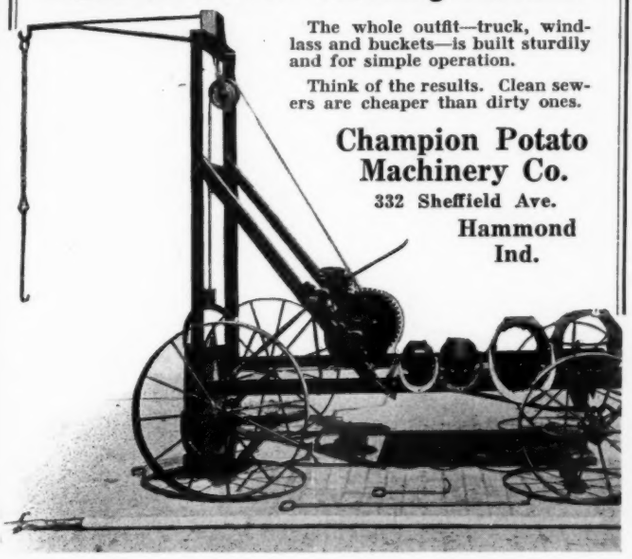

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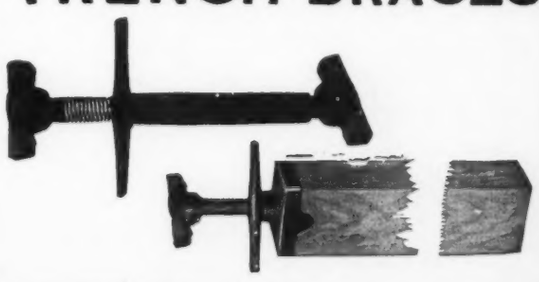

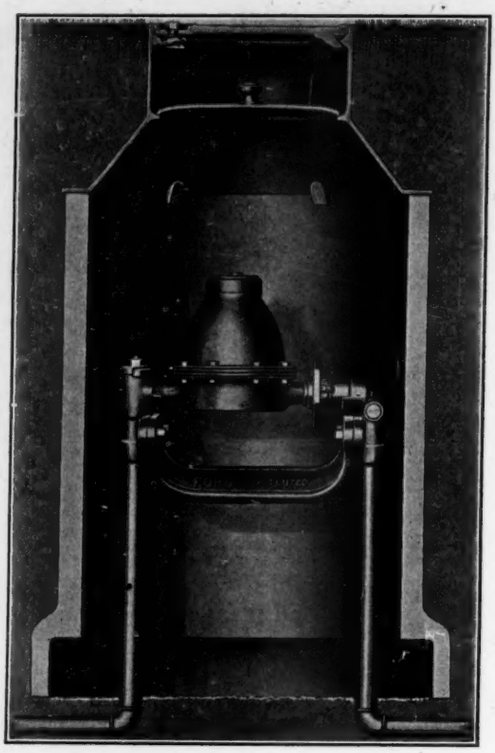

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